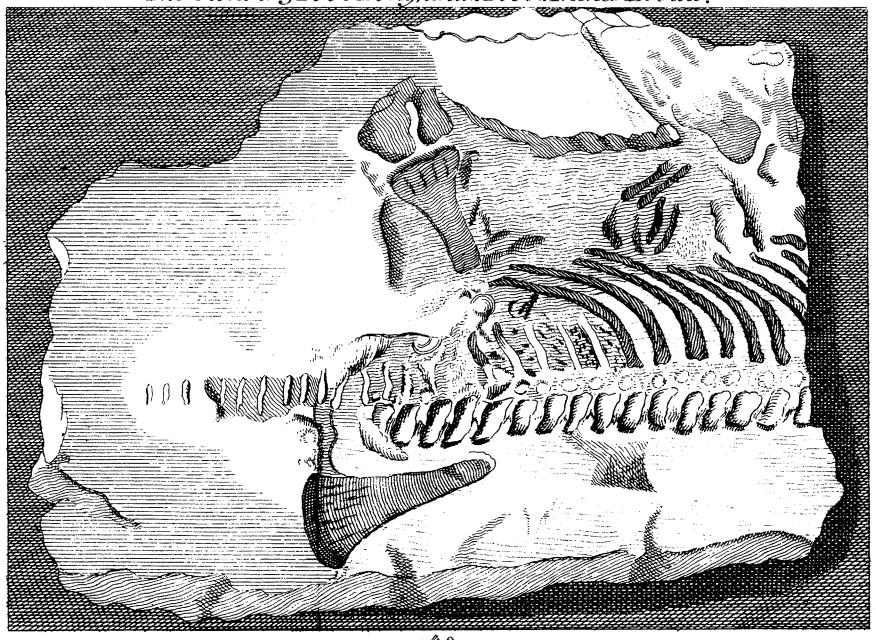

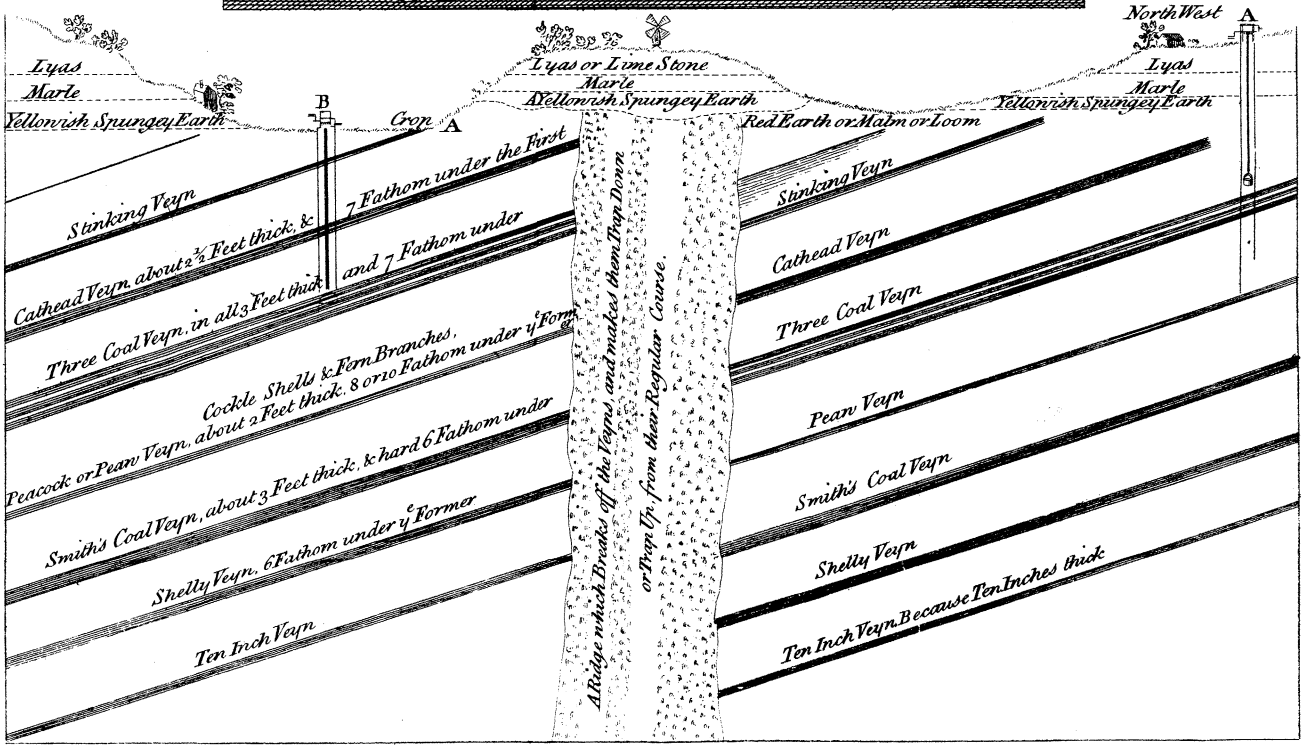
Lyas
Marle
Yellowish Spungey Earth
B
Crop
A
Lyas or Lime Stone
Marle
Yellowish Spungey Earth
Red Earth or Malm or Loom
North West
A
Lyas
Marle
Yellowish Spungey Earth
Stinking Veyn
Cathead Veyn, about 2 3/4 Feet thick, &
7 Fathom under the First
Three Coal Veyn, in all 3 Feet thick
and 7 Fathom under
Cockle Shells & Fern Branches,
Peacock or Pean Veyn, about 2 Feet thick. 8 or 10 Fathom under y Form
Smith's Coal Veyn, about 3 Feet thick, & hard 6 Fathom under
Shelly Veyn, 6 Fathom under y Former
Ten Inch Veyn
A Ridge which Breaks off the Veyns, and makes them Trap Down
or Trap Up, from their Regular Course.
Stinking Veyn
Cathead Veyn
Three Coal Veyn
Pean Veyn
Smith's Coal Veyn
Shelly Veyn
Ten Inch Veyn. Because Ten Inches thick

pregnant Token of that general Inundation, durable as the vain glorious *Egyptian* Monarchs Pyramids at *Memphis*; to be perpetuated in the laſting Records of this Society. *See the Figure of this Impreſſion, in Tab.* I.

IV. *A curious Deſcription of the* Strata *obſerv'd in the* Coal-Mines *of* Mendip *in* Somerſetſhire; *being a Letter of* John Strachey *Eſq; to Dr.* Robert Welſted, *M. D. and* R. S. Soc. *and by him communicated to the Society.*

I Now ſend you the Obſervations which I ſometime ſince promiſed you, relating to the different *Strata* of *Earths* and *Minerals* found principally in the Coal-Mines in my Neighbourhood. For the better Illuſtration whereof, I have incloſed a Draught, which you muſt ſuppoſe the Section of a Coal Country, and to take in about Four Mile from the North-Weſt to South-Eaſt, and may be applied to the Veins of Coal as they lye at *Faringdon-Courny*, and likewiſe at *Biſhop-Sutton*, which laſt Place is near *Stowy*, but in the Pariſh of *Chew Magna* in this County of *Somerſet*. For Diſcovery of Coal, they firſt ſearch for the *Crop*, which is really Coal, tho' very friable and weak, and ſometimes appears to the Day, as they term it; or elſe for the *Cliff*, which is dark or blackiſh Rock, and always keeps its regular Courſe as the Coal does, lying obliquely over it. For all Coal lies ſhelving like the Tyle of a Houſe, not perpendicular nor horizontal, unleſs it be broken by a *Ridge*, which is a parting of Clay, Stone, or Rubble; as if the Veins by ſome violent Shock were disjointed and broken, ſo as to let

in

in Rubble, *&c.* between them. The Obliquity or *Pitch*, as they term it, in all the Works hereabout, is about 22 Inches in a Fathom; and when it riſeth to the Land is called the *Crop*, but in the North *Baſſeting*. In the Works near *Stony*, and likewiſe at *Faringdon* it riſeth to the North Weſt, and pitcheth to the South Eaſt; but the farther they work to the South Weſt, the *Pitch* enclines to the South; and *è contra*, when they work towards the North Eaſt. So likewiſe they obſerve as they work to the South Weſt, when they meet with a *Ridg* it cauſeth the Coal to *trap up*, that is, being cut off by the *Ridg*, they find it over their heads, when they are thro' the *Ridg*: but on the contrary, when they work thro' a ridg to the *North Eaſt*, they ſay it *traps down*, that is, they find it under their feet.

Coal is generally dug in Valleys or low Grounds. The Surface in theſe parts is moſtly a red Soyl, which under the firſt or ſecond Spitt degenerates into *Malm* or *Loom*, and often yields a Rock of Reddiſh *Fireſtone*, till you come to four, five, and many times to twelve or fourteen Fathom depth, when by degrees it changeth to a Gray, then to a Dark or Blackiſh Rock, which they call the *Coal Clives*. Theſe always lye ſhelving and regular as the Coal doth. But in theſe parts they never meet with *Fireſtone* over the Coal, as at *Newcaſtle* and in *Staffordſhire*. Theſe *Clives* vary much in Hardneſs, in ſome places being little harder than *Malm* or *Loom*, in others ſo hard as that they are forced to ſplit them with Gunpowder: So likewiſe in Colour, the top inclining to red or grey, but the nearer to Coal the blacker they grow; and whereſoever they meet with them they are ſure to find Coal under them. But to their diſappointment 'tis not always worth the the digging. The firſt or uppermoſt Vein at *Sutton*

is called the *Stinking Vein.* It is hard Coal fit for Mechanick uſes, but of a ſulphurous Smell. About five Fathom and half, ſeldom more than ſeven Fathom under this, lyes another Vein, which from certain Lumps of Stone mixt with it like a *Caput mortuum* not Inflamable, called *Cats-head*, they call the *Cathead Vein.* About the ſame Depth under this again lyes the *Three Coal Vein*, ſo called becauſe it's divided into three different Coals; Between the firſt and ſecond Coal is a Stone of a foot, in ſome places two feet thick; but the middle and third Coal ſeem placed looſe on each other, without any ſeparation of a different Matter These three Veins before-mentioned are ſometimes work'd in the ſame Pit: But the next Vein which I am going to mention is generally wrought in a ſeparate Pit; for tho' it lyes the like depth under the other, the *Cliff* between them is hard and ſubject to Water; wherefore I have repreſented a Pit ſunk thro' the three Upper Veins at A. and another ſunk upon the *three Coal Veins* only at B. and ſo if they ſink on any of the lower Veins they go more to the North Weſt. *See Fig. Tab.* II.

Next under the *three Coal Veins* is the *Peaw Vein*, ſo denominated becauſe the Coal is figured with Eyes reſembling a Peacock's Tayl, gilt with Gold, which Bird in this Country Dialect is called a *Peaw.* The *Cliff* alſo over this Vein is variegated with *Cockle-ſhells* and *Fern Branches*, and this is always an Indication of this Vein, which, as I before hinted, is always ſearched for about 15 Fathom to the North Weſt of the former.

Under this again between five and ſix Fathom lies the *Smith's Coal Vein*, about a yard thick; And near the ſame depth under that again the *Shelly Vein:* And under that a Vein of 10 Inches thick, which being little valued, has not been wrought to any purpoſe.

Some ſay there is alſo another under the laſt, but that

that has not been proved within Man's Memory. At *Faringdon* they have the ſame Veins, which, as I am informed, agree in all Parts with thoſe of *Biſhop-Sutton* before-mention'd. But as *Faringdon* lies four Miles South-Eaſt from *Biſhop-Sutton*, ſo, in the regular Courſe, they would lye a Mile and $\frac{1}{3}$ deeper than thoſe at *Sutton*. But as in fact they are dug near the ſame Depth, it follows there muſt be a *Trap*, or ſeveral *Traps down*, which in all muſt amount to that Depth between the ſaid Works.

Between *Faringdon* and *High-Littleton* the ſame Veins ſeem to retain their regular Courſe; but at *Littleton* their undermoſt and deepeſt Vein is the beſt Coal, which at *Faringdon* proves ſmall.

On the other hand, in the Pariſh of *Stanton-Drew*, to the North-Eaſt of the Coal-Works at *Sutton* aforeſaid, about a Mile diſtant, and in the true Courſe with thoſe at *Sutton*, the ſame Veins are found again. But here they wind a little, and their Courſe or Drift runs almoſt North, and they dip to the Eaſt; which Winding is attributed to *Ridges*, which the Workmen have met with on both Sides, and have occaſion'd them to diſcontinue the Work that way. At *Stanton* they have little of the Red Earth or *Malm* on the Surface, but come immediately to an *Iron-Gritt* or *grey Tile-Stone*, which is a Fore-runner of the *Coal-Clives*; in all other Matters they agree with the Works near *Stowy*.

In the ſame Pariſh of *Stanton-Drew*, a little to the Eaſtward, they have another Coal-work, but the Veins are in all reſpects different from the former. Their Drift or Courſe is to the Eleven a Clock Sun, as they term it, they *Pitch* to the Five a Clock Morning, and riſe to land; conſequently to the Five a-Clock Evening-Sun. They have ſeveral Veins, but as yet only three are thought worth working. The uppermoſt about three

Feet thick ſmall *Lime-Coal.* The next is about three Fathom under it, about two Feet and an half thick, fit for culinary Uſes: the undermoſt is about the like Depth under the former, only 10 Inches thick, but good hard Coal.

At *Clutton*, about two Mile from theſe latter, in the ſame Drift, *viz.* almoſt to the South Eaſt and by South, theſe laſt Veins appear again. The Surface here is red, and ſo continues to ten, and ſometimes to fourteen Fathom, and in other reſpects agree with the laſt-mention'd Works at *Stanton-Drew*.

At *Burnet*, *Queen-Charlton*, and *Briſleton*, they have Four Veins which Pitch to the North nearly, and conſequently the Drift lies almoſt Eaſt and Weſt. The Surface is red land generally to the Depth of four or five Fathom. The uppermoſt is from three to ſix Feet thick at *Briſleton*, but leſs at *Charlton* and *Burnet*. The next, call'd *Pot-Vein*, is ſix Fathom under the former, eighteen Inches thick, all hard Coal. *Thirdly*, The *Trench-Vein*, 7 Fathom under the other, which is from two Feet and half to three Feet thick, all ſolid Coal. *Fourthly*, *Rock-Vein*, always diſtinguiſh'd by a Rock of Paving-Stone, call'd *Penant*, lying over it, which Rock is ſometime twenty Feet thick, or more, and therefore this Vein is never wrought in the ſame Pit with the former Vein, but about 200 Yards more to the South, or to Land, as they term it. It's computed ſeven Fathom under the former.

This is all I can ſay in relation to the different Veins of Coal and Earth in the Coal-works in theſe Parts; wherein all agree in the Oblique Situation of the Veins; and every Vein hath its *Cliff* or *Clives* lying over it, in the ſame oblique manner. All of them Pitch or Riſe about Twenty two Inches in a Fathom, and almoſt all have the ſame *Strata* of Earth, Malm, and

and Rock over them, but differ in reſpect to their Courſe or Drift, as alſo in Thickneſs, Goodneſs, and Uſe.

Now as Coal is here generally dug in Valleys, ſo the Hills, which interfere between the ſeveral Works before mentioned, ſeem alſo to obſerve a regular Courſe in the *Strata* of Stone and Earth found in their Bowels: For in theſe Hills (I mean thoſe only that are diſpers'd between the Coal-Works above mention'd) we find on the Summits a ſtony Arable mixt with a ſpungy yellowiſh Earth and Clay; under which are Quarries of *Lyas*, in ſeveral Beds, to about eight or ten Feet deep, and ſix Feet under that thro' yellowiſh *Loom*, you have a blue Clay enclinable to *Marle*, which is about a Yard thick: Under this is another Yard of whitiſh *Loom*, and then a deep blue Marle ſoft, fat, and ſoapy, ſix Feet thick; only at about two Feet thick, it is parted by a *Marchaſite* about ſix Inches thick. But as this ſwells beyond the Bounds of a Letter, I muſt defer the farther Deſcription of theſe and ſome *Lead-Mines* to another Opportunity; only 'tis to be noted, that theſe Beds of *Stone* and *Marle*, different from *Coal*, lie all Horizontal.

Your humble Servant,

John Strachey.
